



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,651	02/06/2002	Joo-Seon Kim	Q64314	4497

7590 02/23/2005
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
Suite 800
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER

TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
----------	--------------

2133

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,651

Applicant(s)

KIM, JOO-SEON

Examiner

Joseph D. Torres

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-17 and 19-36 is/are pending in the application.
- 4a) Of the above claim(s) 23-27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-17,19-22 and 28-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. This application contains claims 23-27 drawn to an invention nonelected without traverse in the previous Office Action filed 07/13/2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Oath/Declaration

2. The Applicant contends, "a Supplemental Application Data Sheet supplying the inventor's P.O. address is filed concurrently." The Examiner asserts that no Supplemental Application Data Sheet has been received by the Office to date, hence the Examiner maintains the previous objection.

Claim Rejections - 35 USC § 112

3. In view of the Amendment filed 10/13/2004, the Examiner withdraws all 35 USC § 112 rejections applied in the previous Office Action.

Response to Arguments

4. Applicant's arguments filed 10/13/2004 have been fully considered but they are not persuasive.

Art Unit: 2133

The Applicant contends, "Massoudi does not disclose a first RS core for calculating a first error location and a first error value from data read from the storing part, and a second RS core for calculating a second error location and a second error value from data read from the storing part, as claimed" ... "The on-the-fly row correction circuitry 410 and the correction circuitry 602 do not calculate error location/values" (Note: the quoted arguments from the Applicant's response are referring to Figure 6 in Massoudi). The Examiner disagrees and asserts that col. 7, lines 35-40 of Massoudi teach that "the ECC data block is encoded using Reed-Solomon code, which is well known in the art. Each of the rows in the ECC data block contains 10 row check bytes and each of the columns in the ECC data block contains 16 column check bytes" and col. 7, lines 59-61 of Massoudi teach that "The method 500 then generates row syndromes and performs row error correction on the fly in operation 504" [Emphasis added]. The Examiner asserts that on the fly error correction for the Reed-Solomon encoded rows is performed separately from the error correction for the Reed-Solomon encoded columns. Furthermore, on-the-fly row correction circuitry 410 is error correction circuitry for on the fly correcting of errors in the Reed-Solomon encoded rows. The Examiner asserts that decoding and correction of Reed-Solomon error correction codes inherently requires steps for determining the error value and location in order for a codeword to be corrected. The Examiner asserts Massoudi does teach a first RS core for calculating a first error location and a first error value from data read from the storing part (On-The-Fly Row Correction Circuitry in Figure 6 of Massoudi), and a second RS core for calculating a second error location and a second error value from data (Correction

Art Unit: 2133

Circuitry 602 in Figure 6 of Massoudi) read from the storing part (Figure 1A in Massoudi).

The Applicant contends, "Fujita does not at all mention data to be decoded being read in $(2m)$ bit units".

The Examiner disagrees and asserts that Figure 21 in Fujita teaches that data is read from storage in words of length n , which encompasses reading even length words, i.e. for the case $n=2m$ where m is an integer, that is, assuming m is an integer. Giving m its broadest reasonable interpretation since it is undefined in claim 16, if $m = \frac{1}{2}$, then not only do the teachings in Fujita encompass claim 16, but are identical to what is claimed in claim 16.

The Examiner disagrees with the applicant and maintains all rejections of claims 1, 2, 4-17, 19-22 and 28-36. All amendments and arguments by the applicant have been considered. It is the Examiner's conclusion that claims 1, 2, 4-17, 19-22 and 28-36 are not patentably distinct or non-obvious over the prior art of record in view of the references, Massoudi; Firooz (US 6363511 B1), Fujita; Hachiro et al. (US 6131178 A, hereafter referred to as Fujita) as applied in the last office action, filed 07/13/2004. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 3 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Massoudi; Firooz (US 6363511 B1).

See the Non-Final Action filed 07/13/2004 for detailed action of prior rejections.

2. Claims 15 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujita; Hachiro et al. (US 6131178 A, hereafter referred to as Fujita).

See the Non-Final Action filed 07/13/2004 for detailed action of prior rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2133

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 4-9, 11-14, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Massoudi; Firooz (US 6363511 B1) in view of Fujita; Hachiro et al. (US 6131178 A, hereafter referred to as Fujita).

See the Non-Final Action filed 07/13/2004 for detailed action of prior rejections.

4. Claims 18-22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita; Hachiro et al. (US 6131178 A, hereafter referred to as Fujita) in view of Massoudi; Firooz (US 6363511 B1).

See the Non-Final Action filed 07/13/2004 for detailed action of prior rejections.

Allowable Subject Matter

5. Claim 17 is allowed.

See the Non-Final Action filed 07/13/2004 for detailed action of prior rejections.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133

